

WHAT IS CLAIMED IS:

1. A photomask comprising:

a transparent substrate;

a hollow section formed on a surface of said transparent substrate;

a shade pattern including a shade section, said shade section made up of a shade film and formed in said hollow section; and

reflection preventing sections, each formed according to one of cases:

each reflection preventing section formed on said shade section;

each reflection preventing section formed under said shade section; and

each reflection preventing section formed on and under said shade section.

2. A photomask comprising:

a transparent substrate;

a shade pattern formed on said surface of said transparent substrate; and

a phase shift pattern selectively formed on said shade pattern and said transparent substrate,

wherein a surface of said phase shift pattern is ~~flat~~ *planarized*.

3. A photomask according to claim 2, wherein an end section of said phase shift pattern that is contacted to said transparent substrate has a sloped shape that is gradually thin.

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4. A photomask according to claim 2, where in a difference of a step between said phase shift pattern and said transparent substrate at said end section of said phase shift pattern that is contacted to said transparent substrate is gradually small.

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5. A photomask comprising:
a transparent substrate;
a hollow section formed on a surface of said transparent substrate;
a shade pattern made up of a shade film, said shade film formed in said hollow section; and
a phase shift pattern, whose surface is ~~flat~~ *planarized*, selectively formed on said transparent substrate having said shade pattern formed in said hollow section.

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6. A photomask according to claim 5, wherein a thickness of an end section of said phase shift pattern contacted to said transparent substrate is gradually thin.

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7. A photomask comprising:
a transparent substrate;
a hollow section formed on a surface of said transparent substrate;
a shade pattern made up of a shade film, said shade film formed in said hollow section; and
a phase shift pattern formed ~~on~~ *by* said transparent substrate including said shade pattern formed in said hollow section.

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8. A photomask according to claim 7, wherein an end section

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of said phase shift pattern that is contacted to said transparent substrate has a sloped shap that is gradually thin.

9. A photomask according to claim 2, wherein said phase shift pattern includes a phase shift pattern of a Levenson's type.

10. A photomask according to claim 2, wherein said phase shift pattern includes a phase shift pattern of an auxiliary shifter type.

11. A photomask according to claim 2, wherein said phase shift pattern includes a phase shift pattern of an edge highlighting type.

12. A photomask according to claim 2, wherein said phase shift pattern includes a phase shift pattern of a half tone type.

13. A photomask according to claim 2, wherein said phase shift pattern includes a phase shift pattern of a half tone type with a shade pattern.

14. A photomask according to claim 2, wherein said phase shift pattern includes a phase shift pattern of a shifter shading type with a shade pattern.

15. A photomask according to claim 2, wherein said phase shift pattern includes a phase shift pattern of an intermediate phase type.

16. A photomask fabrication method comprising the steps of:

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forming a resist film on a transparent substrate;
forming a desired pattern on said resist film by
developing said resist film after said resist film is
selectively exposing by using a radiation ray;

5 forming hollow sections in said transparent substrate by
selectively etching said transparent substrate by using said
resist film as a mask;

eliminating said resist film from said transparent
substrate;

10 forming a first reflection preventing film in each of
said hollow sections;

forming a shade film on said first reflection preventing
film formed in each of said hollow sections;

15 forming a shade pattern by performing a chemical and
mechanical polishing for said shade film; and

forming a second reflection preventing film on said shade
pattern;

20 wherein said processes for forming said first reflection
preventing process and said second reflection preventing
process are performed selectively.

17. A photomask fabrication method comprising the steps of:
forming a shade pattern on a transparent substrate;
coating a phase shift film on both said transparent
25 substrate and said shade pattern;

forming a phase shift pattern by selectively etching said
phase shift film by using a radiation ray; and

30 performing a chemical and mechanical polishing for a
surface of said phase shift pattern in order to form said phase
shift pattern having a desired thickness.

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5 selectively etching said phase shift pattern by using
said radiation ray; and

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eliminating said resist pattern from said transparent substrate; and

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forming a desired pattern on said resist film by developing said resist film after said resist film is selectively exposed by using a radiation ray;

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30 forming a shade film in each of said hollow sections;

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performing a chemical and mechanical polishing for said shade film in order to form a shade pattern;
 forming a resist film on said transparent substrate in which said shade pattern has been formed;
 5 selectively etching said resist film by using said radiation ray; and
 selectively etching said transparent substrate.

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23. A photomask fabrication method according to claim 22, after the step of selectively etching said transparent substrate by using said radiation ray, further comprises the step of:

performing said chemical and mechanical polishing for said transparent substrate.

15 24. A photomask fabrication method according to claim 16, wherein one of an electron beam, a laser beam, and a monochromatic beam is used as said radiation ray.

20 25. A fabrication method of semiconductor integrated circuits such as a liquid crystal display, wherein said photomask according to claim 1 is used.

25 26. A fabrication method of semiconductor integrated circuits such as a liquid crystal display, wherein said photomask fabrication method according to claim 16 is included.

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